

# Carbon Footprint Appraisal Report



Marlborough Communications Ltd  
Recommendations for Carbon Reduction  
Assessment Period:  
1<sup>st</sup> May 2020 – 30<sup>th</sup> April 2021

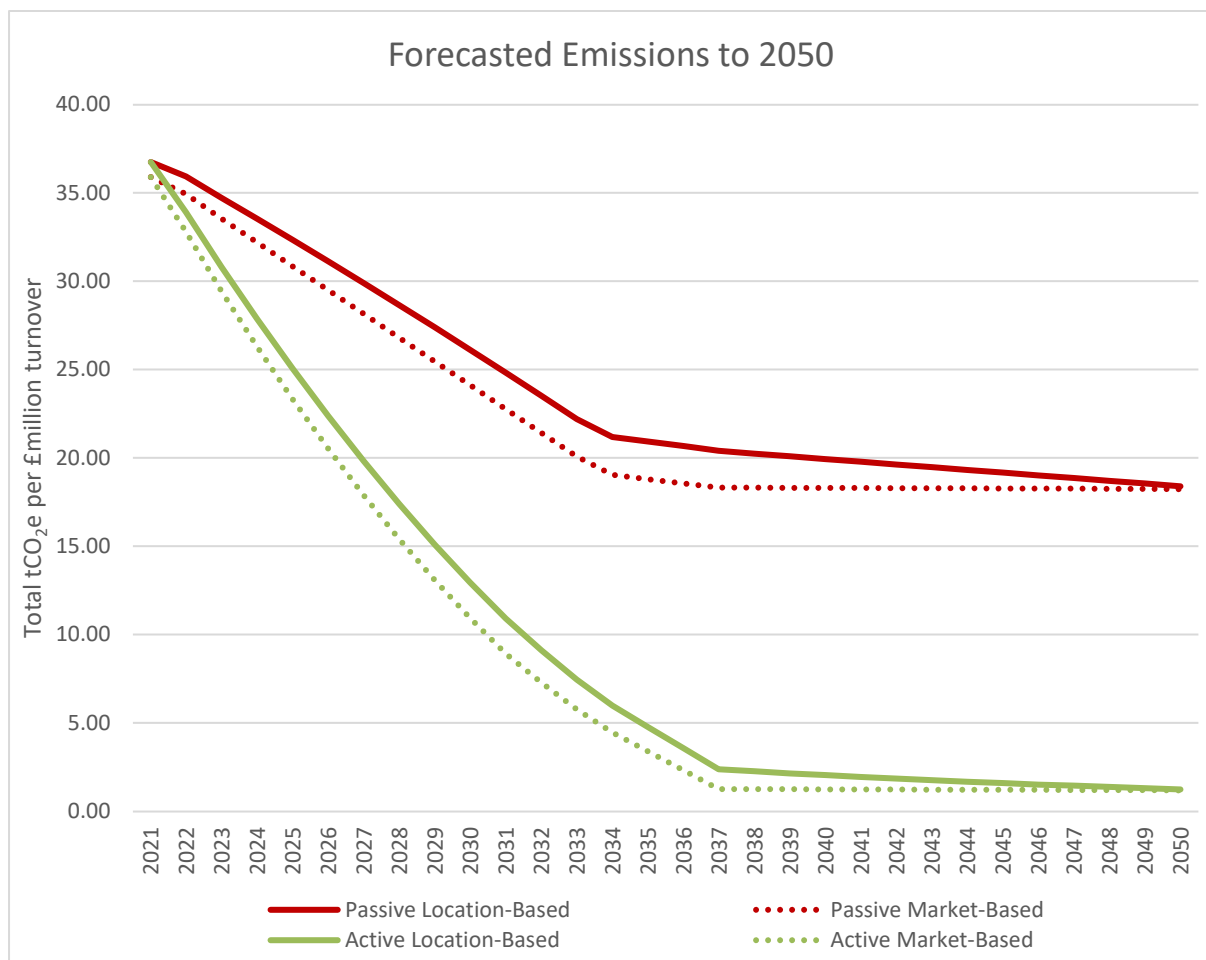


# Executive Summary

Following completion of its carbon footprint assessment, Marlborough Communications Ltd (MCL) is looking to set targets to reduce its greenhouse gas emissions, and impact on climate change. Carbon Footprint Ltd has summarised its recommendations within this report.

To set reduction targets, the following factors have been considered:

- **Passive Reductions** (those that are likely to occur without any action taken by Marlborough Highways)
- **Market Reductions** (those that can be achieved through selecting green energy tariffs)
- **Active Reductions** (those focused on improving energy efficiency and reducing travel)
- **External Reductions** (those caused by carbon compensation and carbon offsetting)



In summary, we recommend MCL set the following targets:

- Become a **Net Zero Carbon business this year** through carbon offsetting
- **Reduce market-based emissions by between 70-90% by 2037**, compared to the 2021 baseline year, on a tCO<sub>2</sub>e/£M turnover basis



## Table of Contents

Executive Summary.....	II
1. Key Recommendations.....	4
1.1. Carbon & sustainability targets.....	4
1.1.1. Target setting.....	4
1.1.2. Summary of Target Setting Recommendations.....	8
1.1.1. Setting carbon reduction budgets based on emissions.....	9
1.1.2. Funding opportunities.....	10
1.2. Carbon offsetting.....	11

## Quality Control

**Report issue number:** 1.0  
**Date:** 07 April 2022

**Calculations completed by:** Stuart Fowler  
**Calculations reviewed by:** Katie Elmer

**Report produced by:** Stuart Fowler  
**Report reviewed by:** Rebecca Pattison

**Director approval:** John Buckley

# 1. Key Recommendations

The following recommendations are designed to help you build upon the results of the appraisal and your carbon management over the coming year.



Measure



Aim



Reduce



Offset



Communicate



Comply



## 1.1. Carbon & sustainability targets

### 1.1.1. Target setting

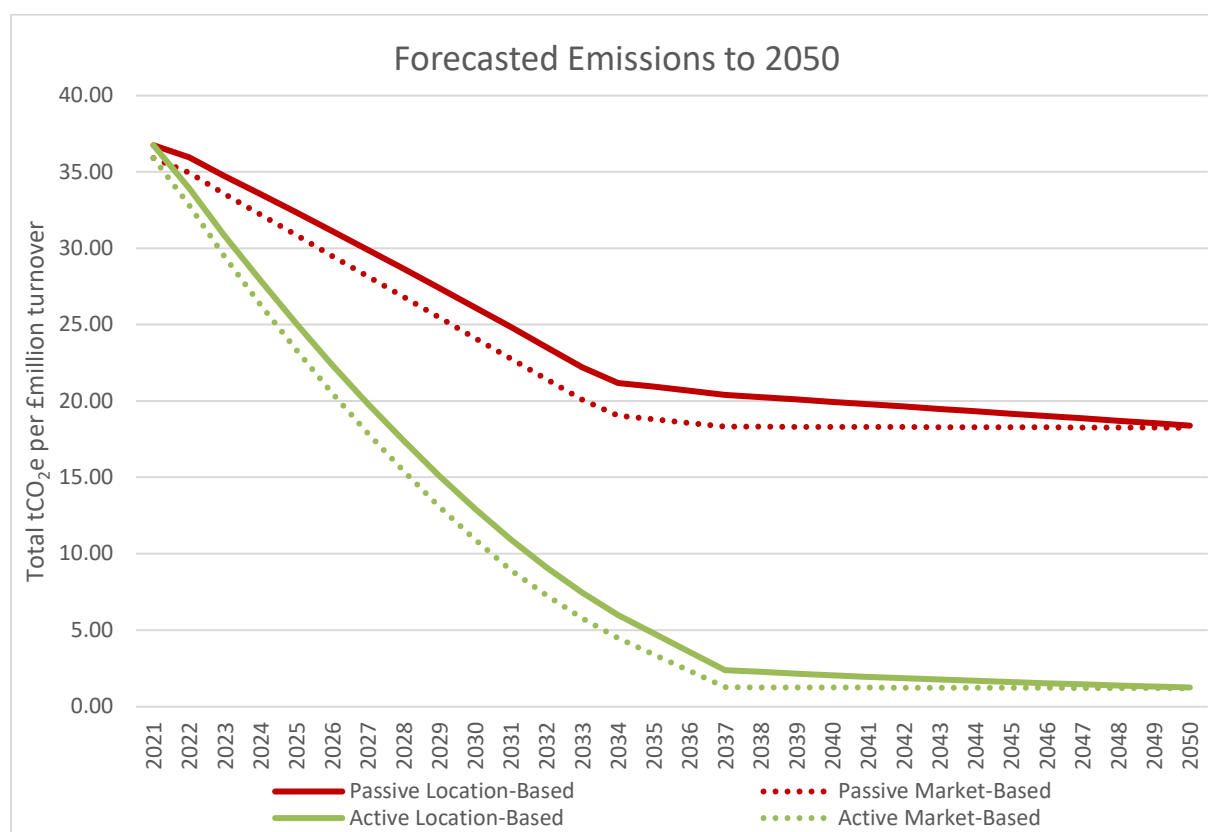
We recommend targets are set against a growth metric, to account for changes in the size of the business. For MCL, we recommend setting the reduction target on a tCO<sub>2</sub>e per £million turnover basis, to allow comparison with future emissions, when the company may have grown.

There are four categories of carbon dioxide<sup>1</sup> reductions to consider whilst setting targets:

1. **Passive Reductions** – these are carbon reductions that would happen without any action needed by the company e.g. the decarbonisation of the electricity grid will gradually reduce the carbon emissions associated with the electricity you use and purchase.
2. **Market-Based Reductions** – these are achieved by selecting and paying for energy tariffs that have lower emissions e.g. buying a green electricity tariff.
3. **Active Reductions** – these are achieved by making technological, behavioural and operational changes within the business. e.g. choosing to reduce the number of miles driven in cars; choosing to put a limit on the number of flights people make; investing in new technology to reduce energy consumption etc.
4. **External Reductions** – carbon **compensation / offsetting** to reduce emissions external to your own footprint to reduce your net emissions.

<sup>1</sup> Referred to as “carbon” or “CO<sub>2</sub>”

Figure 1 shows this recommended approach applied to MCL's emissions to 2050.



**Figure 1: Breakdown of MCL's future emission sources**

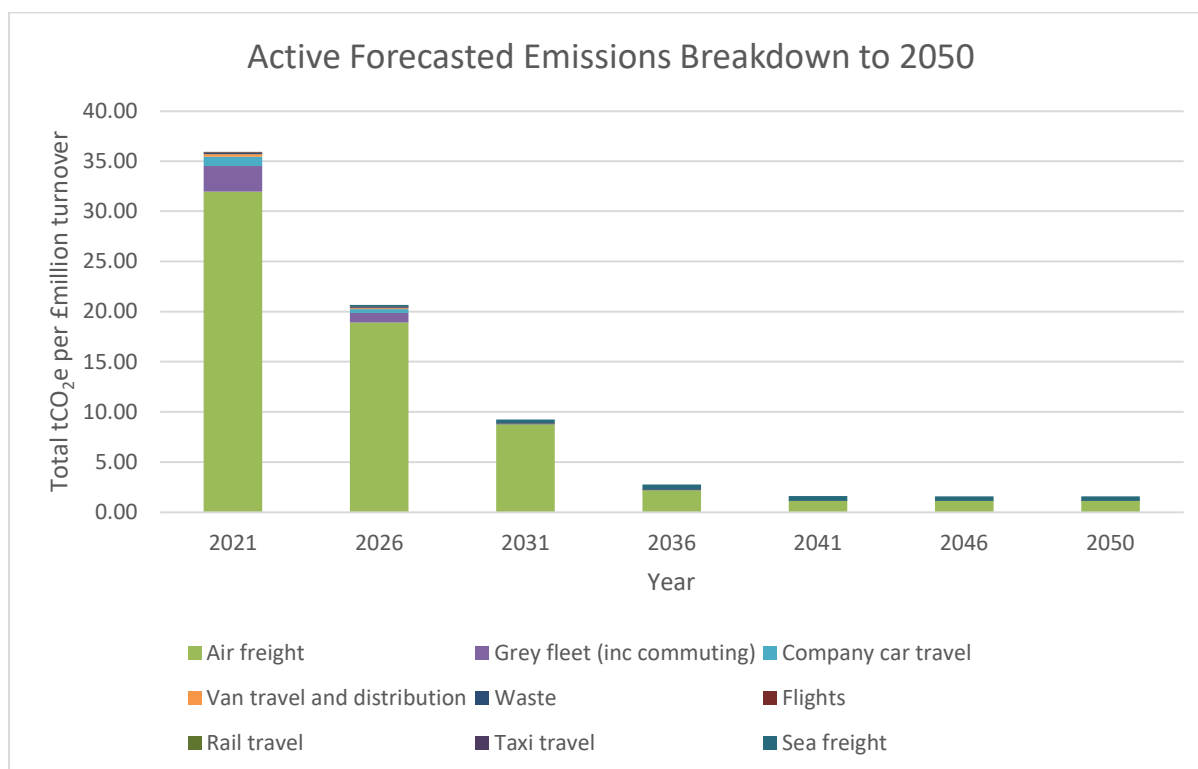
The **Passive Reductions** assume:

- Electricity Grid emissions will reduce linearly to zero by 2050 (which is the UK's target to achieve Net Zero emissions). Note: the UK grid emissions have reduced by approximately 50% over the last 5-6 years on a tCO<sub>2</sub>e per kWh basis.
- Car & van will transition to be 100% electric by 2036. Note: the UK government has moved to end the sale of non-electric cars by 2030. In the assessment we assume electric cars will require the same amount of energy as those powered by internal combustion engines based on the litres of fuel burned by MCL in the 2020/2021 data period.
- Energy efficiency of aircraft improve by around 1.3% annually<sup>2</sup>, reducing the emissions associated with MCL's domestic and freight air travel.

In addition to the passive reductions, the **Active Reductions** assume:

- A gradual transition away from air freight towards sea freight use, with 90% of all shipments completed by sea by 2037. This is the most significant element of the MCL footprint and where there is the greatest scope for carbon reductions.
- A continued roll out of electric employee vehicles on the salary sacrifice scheme, with all grey fleet vehicles being fully electric by 2030.
- Company owned cars and vans are fully electric by 2030.

<sup>2</sup> [Aviation - Fuels & Technologies - IEA](#)



**Figure 2: Forecasted market-based emissions per £M turnover, based on an active emissions reduction scenario**

**Table 1: Forecasted market-based emissions per £M turnover, based on an active emissions reduction scenario**

Footprint Element	2021	2026	2031	2036	2050
Air freight	31.97	18.89	8.76	2.18	1.11
Grey fleet (inc commuting)	2.54	0.98	0.00	0.00	0.00
Company car travel	0.94	0.36	0.00	0.00	0.00
Van travel and distribution	0.25	0.10	0.00	0.00	0.00
Waste	0.12	0.11	0.10	0.08	0.00
Flights	0.08	0.05	0.03	0.02	0.00
Rail travel	0.00	0.00	0.00	0.00	0.00
Taxi travel	0.00	0.00	0.00	0.00	0.00
Sea freight	0.00	0.16	0.33	0.47	0.47
Site electricity - Market-based	0.00	0.00	0.00	0.00	0.00
EV Electricity - Market-based	0.00	0.00	0.00	0.00	0.00
<b>Market based total per £M turnover (tCO<sub>2</sub>e/£M)</b>	<b>35.90</b>	<b>20.67</b>	<b>9.22</b>	<b>2.75</b>	<b>1.58</b>

Table 2 below provides a summary of the MCL baseline year footprint, which should be used for comparison with all future emissions assessments. It should be noted that the domestic road freight operation has been excluded from the scope of this assessment due to a lack of useable data. MCL is

actively working towards improving internal processes, enabling this emission to be reported in future emission assessments.

**Table 2: MCL baseline year footprint by scope**

Scope	Activity	Market Based tCO <sub>2</sub> e
<b>Scope 1</b>	Company car travel	16.89
	Van travel and distribution	4.49
<b>Scope 1 Sub Total</b>		<b>21.38</b>
<b>Scope 2</b>	Electricity generation	0.00
<b>Scope 2 Sub Total</b>		<b>0.00</b>
<b>Scope 3</b>	Air freight	575.42
	Employee-owned car travel (grey fleet)	46.01
	Waste	2.12
	Flights	1.39
	Rail travel	0.07
	Taxi travel	0.03
<b>Scope 3 Sub Total</b>		<b>625.05</b>
<b>Total tonnes of CO<sub>2</sub>e</b>		<b>646.43</b>
<b>Tonnes of CO<sub>2</sub>e per employee</b>		<b>16.16</b>
<b>Tonnes of CO<sub>2</sub>e per £M turnover</b>		<b>35.91</b>

In order to meet the targets set out in Figure 1 and Table 1, MCL must transition towards a freight operation that uses mostly sea freight as fast as possible, as this is where there is the most scope for rapid emissions reductions. Air freight is roughly 80 times more carbon intense than sea freight on a per km basis and so all non-time sensitive shipments should be immediately shipped by sea.

MCL should also aim to transition all company owned cars and vans, as well as grey fleet cars to electric vehicles by 2030; as the UK government aims to end the sale of non-electric cars by this time. The roll out should be expedited through installing electric vehicle charging points at all office sites and promoting any government incentives for buying/leasing EVs.

All targets set should be reviewed regularly (e.g. on an annual basis) and amended accordingly (i.e. target increased if it is met ahead of schedule). This will prevent complacency if the target set was too conservative to start with. An action plan should be developed to set out how the targets will be met, and an employee should be allocated the responsibility of carrying out the plan.

## 1.1.2. Summary of Target Setting Recommendations

In summary we recommend MCL set the following targets:

1. **Become a Net Zero Carbon Emissions business by offsetting your footprint.**
  - This is a last resort, for emissions that have already occurred and therefore MCL must account for.
2. **Transition all air freight shipments to sea freight as soon as possible**
  - MCL should prioritise its carbon reduction efforts on this as it is by far the most material contributor to the current carbon footprint.
3. **Replace company vehicles and grey fleet cars with electric vehicles by no later than 2030** to reduce fuel burn emissions and allow these emissions sources to become neutral as the electricity grid decarbonises.
4. **Introduce sustainable business travel policies in an attempt to keep air travel to a minimum as international travel restrictions are lifted and normal business operations resume.**
5. **Reduce market-based emissions by between 70-90% by 2035**, compared to the 2021 baseline year, on a tCO<sub>2</sub>e/£M turnover basis



### 1.1.1. Setting carbon reduction budgets based on emissions

Having an agreed and defined system for investing in future carbon reduction activities helps drive carbon reduction and cost savings in a business. Many leading organisations are doing this through setting an “Internal Carbon Tax” or an “Internal Carbon Price” within their organisation (see [http://www.carbonfootprint.com/internal\\_carbon\\_pricing.html](http://www.carbonfootprint.com/internal_carbon_pricing.html) for more information).

We suggest starting by setting a price of £20-25 per tonne of CO<sub>2</sub>e, as this typically relates to 1-6% of the cost of causing emissions (as shown in the table below). You may wish to collect the “taxation” by each functional group (depending on their emissions), or simply account for this at the top-level company budgeting.

**Table 1: Carbon price compared to energy and travel costs**

Emissions Source	Electricity	Natural Gas	Car Miles	Flights
<b>1 tonne CO<sub>2</sub>e is equivalent to</b>	2400 kWh	5500 kWh	3300 miles	5200 km
<b>Cost to produce 1 tonne CO<sub>2</sub>e</b>	£335	£220	£1485*	£400
<b>£20 carbon price represents</b>	6%	9%	1%	5%

\*assumes a rate of 45p per mile

We recommend allocating this defined budget to help both internal and external carbon reduction activities. For example, it could be split:

- 75% on internal carbon reduction measures
- 25% on external carbon offsetting activities

Investments in internal carbon reduction activities should be made based on the level of carbon savings and the associated cost savings. Good carbon reduction investments usually pay for themselves and give a return on investment to the business within 3 years. Carbon offsetting return on investment is primarily measured through access to tenders, brand enhancement and PR (use marketing return on investment techniques).

### 1.1.2. Funding opportunities

The following section provides details of current funding opportunities in the UK that may be applicable to MCL in order to increase the percentage of electric/hybrid vehicles within the fleet.

#### **Plug-in car & van grants & incentives:**

This funding is provided in the form of grants issued by the UK Government, which go towards the purchase of a plug-in electric vehicle. The levels of funding are as follows:

- 35% of the cost of a van, up to a maximum of £6,000 (for large vans)
- 35% of the cost of a car, up to a maximum of £2,500 (for cars with a list price below £35,000)

This will help to reduce the company's vehicle travel emissions. Further details on which vehicles are eligible are available through this website: <https://www.gov.uk/plug-in-car-van-grants>

The following schemes incentivise all types of vehicle acquisitions, including for employee-owned vehicles:

- Leasing - There are significant tax incentives if you lease an electric vehicle under a company 'salary sacrifice' programme. This type of programme is increasingly used instead of old-style company car programmes. Lease costs are taken off an employee's gross salary. This means that the employee's tax burden (PAYE and NIC) is then reduced (by the lease costs). For fossil-fuelled cars, employees would still be hit with high Benefit in Kind (BIK) taxes that (in 2021) can be as high as 37% of the P11D value of the vehicle compared with 1% for full EVs. This makes the EV an exceptionally good candidate as a salary sacrifice option. More so for higher tax bracket earners.
- Company car - If you get a company car, you will also benefit again from the very low BIK (tax year 2021, full EVs BIK at 1%, compared with >150g/km CO2 car BIK at 37%) – reducing your tax burden. Full EVs also qualify for Enhanced Capital Allowances (EHA) – at time of writing permitting the business to 'write down' the full value of the vehicle within one year against profits and thus reduce corporate taxes.
- Buying an EV outright – Although, car leasing is increasingly popular, many people still wish to buy a car outright. For this, the UK incentivises purchase of EVs for cars with electric range of greater than 70 miles as April 2021 to up to £2500 for cars with a list price under £35,000.

#### **Workplace Charging Scheme:**

This funding is provided in the form of vouchers issued by the UK Government, which go towards the purchase of electric vehicle charging points.

The grant cap is set at a maximum of £350 (including VAT) per socket. Each company can apply for up to 40 sockets (across all sites).

For more information, refer to: <https://www.gov.uk/government/publications/workplace-charging-scheme-guidance-for-applicants-installers-and-manufacturers>



## 1.2. Carbon offsetting

**Carbon offsetting is a great way to compensate for the emissions that you cannot reduce, by funding an equivalent carbon dioxide saving elsewhere.**

We can provide both UK-based and international projects for you to support. The majority of projects focus on the development of renewable energy in developing countries, however there are others which have a greater focus on social benefits as well as environmental benefits. Further detail on the type and specific projects that we currently have in our portfolio can be provided on request or be found at: <http://www.carbonfootprint.com/carbonoffsetprojects.html>.

The cost of offsetting has reduced considerably over recent times. As a budgetary indication, your full emissions footprint can be offset from **£4.00 per tonne**.

*Example of Carbon Offsetting Projects:*



*Tree Planting in UK Schools*



*Avoided Deforestation in the Brazilian Amazon*



*Clean Water in Rwanda*